

# NATURE

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## CONTENTS

	Page
International Co-operation in Telecommunications	567
Nature Conservation and Ecology	568
Whalebone Whales in the Antarctic. By F. C. Fraser	569
Statistics of Literary Vocabulary. By M. G. Kendall	570
The Affine Connexion in Physical Field Theories. By Prof. E. Schroedinger	572
Incompatibility in Plants: Its Genetical and Physiological Synthesis. By Dr. D. Lewis	575
Factors in the Production of Honey. By E. B. Wedmore, C.B.E.	578
Obituaries:	
Dr. J. Argyll Campbell. By Sir Leonard Hill, F.R.S.	579
Mr. E. C. Stuart Baker, C.I.E. By Dr. W. L. Sclater	580
Mr. J. W. Bullerwell. By Prof. George W. Todd	580
Prof. W. G. MacCallum. By Dr. J. D. Rolleston	581
News and Views	581
Letters to the Editors:	
Molecular Co-ordination in Cellulose.—Dr. F. T. Peirce	586
Molecular Shape and Size of Hyaluronic Acid and Chondroitinsulphuric Acid.—Prof. Gunnar Blix and Olle Snellman	587
Lattice Constant of Diamond and the C-C Single Bond.—Dr. D. P. Riley	587
Bud Regeneration at Cut Parenchymatous Surfaces in Onocleoid Ferns.—Prof. C. W. Wardlaw	588
A New Antigen of Salmonella.—José Julio Monteverde and Ramon Hector Leiguarda	589
Production of Seed Potatoes in a Hot, Dry Climate.—Dr. J. E. van der Plank	589
Estimation of the Anti-Bacterial Activity of Fungi that are Difficult to Grow on Liquid Media.—W. H. Wilkins and G. C. M. Harris	590
Influence of Green Food on the Prevention of Piglet Anæmia.—J. A. J. Venn	591
Viscosity and Contraction of Unstriated Muscle.—Major Inderjit Singh	591
Origin of the Planets.—R. A. Lyttleton	592
Rate of <i>n</i> -fold Accidental Coincidences.—Prof. Erwin Schroedinger; Dr. L. Jánosy	592
Donnan Membrane Potential.—Dr. S. G. Chaudhury	593
Copper Carbonyl: a Correction.—Dr. P. L. Robinson and K. R. Stainthorpe	593
Activation of Pyrethrins in Fly-Sprays. By W. A. L. David and P. Bracey	594
The Cedar Tree. By Alexander L. Howard	595
Antibacterial Substances in Green Plants	598
Frequency Performance of Quartz Plates	598
The 'Microtimer'	599

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## INTERNATIONAL CO-OPERATION IN TELECOMMUNICATIONS

THE machinery of international co-operation, which has been allowed, in the political sphere, to break down from frictional wear and tear, is being hopefully re-examined as a prelude to reconditioning or reconstruction. Chatham House has been happily inspired to inaugurate a series of monographs on international transport and communications, and the series opened appropriately with the discussion of international telecommunications\*: appropriately, because the Union to which was first entrusted in 1865 the organization and regulation of telecommunications was, as the author of the monograph justly says, "One of the earliest, and also one of the most successful organs of international collaboration". The structure, which was founded on the International Telegraph Union, grew large and somewhat sprawling with the rapid expansion, first of line telephony, and later of radio communication systems. It was redesigned and given good architectural form at a conference held in Madrid in 1932. There the International Telecommunication Union was created as the supreme organ of collaboration in these fields. Brigadier-General Sir Osborne Mance's book is an admirable guide to the past history of international telecommunications, and to those considerations which will be important in the planning and management of their future.

It has been remarked, by those who have had the privilege of participating in the international conferences on telecommunications and on meteorology, that in general the technical world has managed these partial Leagues of Nations more successfully and fruitfully than did the political world its more ambitious and naturally less tractable League. These successes were in part due to the simple and inescapable conviction that the choice lay only between collaboration and chaos. But that has been demonstrated to be true also in the political sphere. There is justification for the claim that the community of interest and mode of thought engendered by a common technique was a major factor in the success attained. The secure foundation of the common technique was, in turn, that universal freedom of interchange of scientific knowledge and thought which has been an enduring encouragement to all who believe that man can learn to forget frontiers without forgetting national pride.

The problems of line communication are of great technical interest, but they are technically, organizationally and politically of a pristine simplicity when compared with those of radio communication. Mutual interference through common use of a medium which facilitates the passage of intelligence to world-wide distances, at an expenditure of power which may be less than that of a pocket torch, can only be avoided by skilled adherence to stringent regulations. The difference in the area served by radio communications on different wave-lengths, the variability of the

\* International Telecommunications. By Brig.-General Sir Osborne Mance. (Issued under the auspices of the Royal Institute of International Affairs.) Pp. xii+90. (London, New York and Toronto: Oxford University Press, 1943.) 7s. 6d. net.

area with the time of day and with the season, the limitation of the service by noises of natural origin—mainly radiated from lightning flashes—all these and similar factors lead to keen competition for wave-length channels, which must be allocated internationally if radio peace is to be maintained.

It has been suggested that allocation should be based on two principles which seem unanswerable in the abstract, but which have not yet been accepted as a basis of action. The first principle is, in its broadest form, that first claim should be conceded to those services in which a metallic conductor cannot be used to link sending to receiving station. Thus maritime and aircraft services would be given absolute priority; and the use of line telegraphy and telephony would be encouraged, in preference to radio links, wherever they could assure a service. The second principle is that where services with a legitimate claim (within the first principle) to radio allocations come into competition for channels, preference should be given to the one which is of the highest social importance. In the absence of an agreed set of principles such as these, allocation has remained a matter for bargaining, compromise and successive readjustments. Difficult as would be the working out of the ethical, organizational and political problems implicit in the "highest social importance" criterion, the absence of even this golden foot-rule leaves still greater difficulties to be faced. Prestige, propaganda and profits are noisier claimants than principles.

The maritime services demand not merely straightforward communication of the content of the spoken or the written word, not merely that vital aid to determination of longitude provided by time signals, the value of which depends on the infinitesimal time they lose in travelling halfway round the world. They require, too, those radio aids to navigation which depend on the fact that it is not difficult to measure, at a receiving station on ship or shore, the bearing, relative to true north or to the ship's heading, from which signals of known place of origin are coming in. Radio beacons and direction-finding services require a special place in the most-favoured-service category.

Still more exacting are the claims of air transport. Radio, with its lusty infant progeny of 'radar' devices, offers the air line of the immediate post-war future a complex of communication, navigational and safety services which leave only one major hazard in all-weather flying. But such services demand monopoly use of a considerable range of wave-lengths, denied to any other user within a wide area which may, in some cases, be a world area.

These are the services which would stand indisputably at the top of the priority list based on the first general principle; the broadcasting services would certainly claim first place in the "social importance" scale—even though the cynic will suggest that a mad dog may, while he runs free, be of more immediate social importance than a young Pasteur.

It is not too soon for the United Nations to be considering now a sound double framework of basic

principles and technical performance in the broad field of international communications. Within such a framework must be fitted the post-war solutions of problems which will have become more numerous and more pressing with war-time progress in radio and with the demands of rehabilitation. It may well be believed—and hoped—that no such opportunity for rationalization and reconciliation of competing claims in the field of international communications will ever again present itself.

## NATURE CONSERVATION AND ECOLOGY

IN his recent broadcast address, the Prime Minister rebuked those "comfortable people who . . . would rather postpone building homes for the returning troops until they have planned out every acre in the country to make sure the landscape is not spoiled". It is not, perhaps, immediately clear who are the people thus referred to, but we can be sure that the scientific advocates of nature conservation are not among them. They, at any rate, will be content if the place allotted to them in the scramble for post-war priorities is not too near the end of the queue. This is made clear in an admirable pamphlet recently published by the British Ecological Society\*, in which the human or social background is constantly kept in view.

When the Nature Reserves Investigation Committee was appointed in response to an official request in 1942, a committee of the Ecological Society was already engaged in considering the same subject and was able to assist in the inquiries. When the first-named Committee's report was published (see NATURE, June 26, 1943) the work of the Ecological Committee might have been thought to require no further record. It was considered, however, that the distinctively ecological point of view deserved to be independently formulated, and the report now published is designed to do this. It forms a very valuable supplement to the earlier report, and its extended treatment of the subject may be found more attractive by many readers.

Ecologists are, of course, primarily concerned with the scientific (or research) and educational aspects of nature conservation, though it is emphasized that these only rarely conflict with, and often reinforce, the claims of amenity and recreation. The subjects of ecological study are less the individual species than the interdependent aggregations or 'communities' of animals and plants that occur in Nature, and ecologists are specially desirous of preserving these communities. "Oak, beech and ash trees, heather and bilberry and bog-moss are very unlikely to disappear altogether from the country, but their continued existence as species is of very limited use to the ecologist if all the oakwoods, beechwoods and ashwoods, the heather and bilberry moors and the undrained *Sphagnum* bogs are destroyed or so modified that they no longer

\* "Nature Conservation and Nature Reserves". Report drawn up by a Committee and approved by the Council of the British Ecological Society. Pp. 38. October 1943. (Cambridge University Press.) 1s. 6d.